Amendments to the Claims:

Claims 1, 7-10, 12, 13, 15, 16, 18 and 19 have been amended herein. Please note that all claims currently pending and under consideration in the referenced application are shown below. Please enter these claims as amended. This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1. (Currently amended) A method for forming a contact electrically connected to a metal line, comprising:

forming an insulation layer situated on a semiconductor substrate;

forming a contact hole in the insulation layer to expose a contact surface on ~~said~~ the semiconductor substrate; and

forming a single layer of metal having a substantially planar top surface upon a top planar surface of ~~said~~ the insulation layer, ~~said~~ the single layer of metal substantially filling the contact hole and ~~being in electrical~~ in contact with ~~said~~ the contact surface on ~~said~~ the semiconductor substrate.

2. (Original) The method of claim 1, wherein the single layer of metal comprises a pure metal or alloy thereof.

3. (Original) The method of claim 1, wherein the single layer of metal comprises a material selected from the group consisting of Al, AlCu, and AlCuSi.

4. (Original) The method of claim 1, wherein the single layer of metal comprises a material selected from the group consisting of AlSi, AlTi, AlAg, AlAu, AlMn, AlNa, AlW, AlCuZn, and AlNi.

5. (Original) The method of claim 1, wherein the insulation layer comprises a material selected from the group consisting of TEOS, doped silicon dioxide, BPSG, PSG, BSG, and silicon nitride.

6. (Original) The method of claim 1, wherein the insulation layer comprises a material selected from the group consisting of oxides, nitrides, carbides, carbon nitrides, oxynitrides, doped monocrystalline silicon, and doped polycrystalline silicon.

7. (Currently amended) The method of claim 1, wherein the step of forming a single layer of metal having a substantially planar top surface upon a top planar surface of ~~said~~ the insulation layer comprises:

planarizing the insulation layer to form ~~said~~ the top planar surface of ~~said~~ the insulation layer;

depositing ~~said~~ the single layer of metal upon ~~said~~ the top planar surface of ~~said~~ the insulation layer, ~~said~~ the single layer of metal having a selected thickness;

treating ~~said~~ the semiconductor substrate in an environment of a selected pressure range and a selected temperature range so as to cause ~~said~~ the single layer of metal to substantially fill the contact hole;

planarizing the single layer of metal; and

forming a metal line having a selected shape from ~~said~~ the single layer of metal.

8. (Currently amended) The method of claim 7, wherein forming a metal line having selected shape from ~~said~~ the single layer of metal comprises patterning and etching ~~said~~ the single layer of metal into ~~said~~ the metal line having ~~said~~ the selected shape.

9. (Currently amended) The method of claim 1, wherein forming a single layer of metal having a substantially planar top surface upon a top planar surface of ~~said~~ the insulation layer comprises:

planarizing the insulation layer to form ~~said~~ the top planar surface of ~~said~~ the insulation layer;

forming a refractory metal silicide layer within ~~said~~ the contact hole upon ~~said~~ the contact surface on ~~said~~ the semiconductor substrate, ~~said~~ the contact surface comprising silicon;

forming a refractory metal nitride layer upon a sidewall of ~~said~~ the contact hole in contact with ~~said~~ the insulation layer;

depositing ~~said~~ the single layer of metal upon ~~said~~ the top planar surface of ~~said~~ the insulation layer and in contact with both ~~said~~ the refractory metal silicide layer and ~~said~~ the refractory metal nitride layer; and

treating ~~said~~ the semiconductor substrate in an environment of a selected pressure range and a selected temperature range so as to cause ~~said~~ the single layer of metal to substantially fill the contact hole.

10. (Currently amended) The method of claim 9, wherein ~~said~~ the refractory metal silicide layer comprises titanium silicide and ~~said~~ the refractory metal nitride layer is comprised at least in part of titanium nitride.

11. (Original) The method of claim 1, wherein forming a single layer of metal is selected from the group of deposition processes consisting of PVD, CVD, electroplating, and electroless plating.

12. (Currently amended) A method for forming a contact electrically connected to a metal line, comprising:

forming an insulation layer situated on a silicon layer upon a semiconductor substrate;

forming a contact hole in the insulation layer to expose a contact surface on ~~said~~ the silicon layer;

forming a refractory metal silicide layer within ~~said~~ the contact hole upon ~~said~~ the silicon layer;

forming a refractory metal nitride layer upon a sidewall of ~~said~~ the contact hole in contact with ~~said~~ the insulation layer;

depositing a single layer of metal upon ~~said~~ the insulation layer and in contact with both ~~said~~ the refractory metal silicide layer and ~~said~~ the refractory metal nitride layer; and

treating ~~said~~ the semiconductor substrate in an environment of a selected pressure range and a selected temperature range so as to cause ~~said~~ the single layer of metal to substantially fill the contact hole.

13. (Currently amended) The method of claim 12, further comprising:

planarizing the single layer of metal; and

patterning and etching ~~said~~ the single layer of metal into a metal line having a selected shape.

14. (Original) The method of claim 12, wherein the single layer of metal comprises a material selected from the group consisting of Al, AlCu, and AlCuSi, and the insulation layer comprises a material selected from the group consisting of TEOS, doped silicon dioxide, BPSG, PSG, BSG, and silicon nitride.

15. (Currently amended) A contact plug and metallization line structure comprising:

a semiconductor substrate having a contact surface thereon;

an insulation layer having a contact hole therethrough extending to the contact surface on the semiconductor substrate;

a plug comprised of a first metal and situated in ~~said~~ the contact hole, ~~said~~ the plug being electrically insulated by ~~said~~ the insulation layer; and

a metallization line comprised of a second metal, wherein ~~said~~ the plug and ~~said~~ the metallization line are electrically connected and have a substantially continuous composition gradient of a selected alloying element between ~~said~~ the first metal and ~~said~~ the second metal;

wherein the contact surface has a first refractory metal silicide layer thereon in contact with a first end of ~~said~~ the plug.

16. (Currently amended) The contact plug and metallization line structure of claim 15, wherein each of ~~said~~ the first and second metals is selected from the group consisting of Al, AlCu, and AlSiCu, and wherein one of ~~said~~ the first and second metals has a higher concentration of Cu than the other of ~~said~~ the first and second metals.

17. (Original) The contact plug and metallization line structure of claim 15, wherein the first and second metals have substantially the same composition.

18. (Currently amended) The contact plug and metallization line structure of claim 15, wherein ~~said~~ the plug has a second end opposite ~~said~~ the first end and in contact with a second refractory metal silicide layer, ~~said~~ the second refractory metal silicide layer being in contact with ~~said~~ the metallization line.

19. (Currently amended) A contact plug and metallization line structure comprising:

a semiconductor substrate having a contact surface thereon;

an insulation layer comprising a doped oxide of silicon and having a contact hole therethrough extending to the contact surface on the semiconductor substrate;

a plug comprised of a first metal and situated in ~~said~~ the contact hole, ~~said~~ the first metal being selected from the group consisting of aluminum and alloys thereof, ~~said~~ the plug being electrically insulated by ~~said~~ the insulation layer; and

a metallization line comprised of a second metal, ~~said~~ the second metal being selected from the group consisting of aluminum and alloys thereof, wherein ~~said~~ the plug and ~~said~~ the metallization line are electrically connected and have a substantially continuous composition gradient of selected alloying element between ~~said~~ the first metal and ~~said~~ the second metal;

wherein the contact surface has a first refractory metal silicide layer thereon in contact with a first end of ~~said~~ the plug.

20. (Original) The contact plug and metallization line structure of claim 19, wherein the first and second metals comprise a material selected from the group consisting of AlSi, AlTi, AlAg, AlAu, AlMn, AlNa, AlW, AlCuZn, and AlNi.

21. (Original) The contact plug and metallization line structure of claim 19, wherein the insulation layer comprises a material selected from the group consisting of oxides, nitrides, carbides, carbon nitrides, oxynitrides, doped monocrystalline silicon, and doped polycrystalline silicon.